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Infant Development & Feeding Skills

A baby's developmental readiness determines which foods should be fed, what texture the foods should be, and which feeding styles to use. All babies develop at their own rate. Although age and size often correspond with developmental readiness, these should not be used as sole considerations for deciding what and how to feed babies. It is important to be aware of babies rapidly developing mouth patterns and hand and body control so that you know the appropriate food and texture to serve them and the appropriate feeding style to use at each stage of their development, as shown in Figures 1 and 2.

Figure 1 summarizes the development of a baby's mouth patterns and hand and body control and how these affect both the baby's ability to eat foods of different textures and how the food is fed. The ability of newborn babies to only suck and swallow liquids is due to their limited level of development and the way their mouths are designed. As babies mature, they are able to begin learning to eat infant cereals and strained solid foods from a spoon. Eventually they are able to feed themselves small pieces of food by hand and later by spoon.

The rate at which each baby progresses to each new food texture and feeding style is determined by the baby's own skills and attitudes. Some babies are cautious, others venturesome. Babies always do better if they are supported in progressing at their own rate. As shown in Figure 1, there is an overlap of ages to allow for differences in development.

Figure 1 describes different reflexes involved in feeding and eating. Some of these reflexes are defined as follows:

- **Rooting reflex**—When a baby's mouth, lips, cheek, or chin are touched by an object, the head and mouth turn towards the object and the baby opens its mouth. This reflex allows a baby to seek out and grasp a nipple.
- **Suck/swallow reflex**—After opening the mouth when baby's lips and mouth area are touched, suckling or sucking movements begin. As liquid moves into the mouth, the tongue moves it to the back of the mouth for swallowing.
- **Tongue thrust reflex**—When the lips are touched, the baby's tongue moves out of the mouth. This reflex allows for feeding from the breast or bottle but not from a spoon or cup.
- **Gag reflex**—When an object, such as a spoon or solid food, is placed way back in the mouth, the object is quickly moved back out of the mouth on the tongue. This reflex is one reason for waiting until a baby is 4 to 6 months old to feed solid foods.

These reflexes may be stronger or weaker, or last longer than normal, in babies who are delayed in their development.

Figure 1

Sequence of Infant Development and Feeding Skills in Normal, Healthy Full-Term Infants*

DEVELOPMENTAL SKILLS

Baby's Approx. Age	Mouth Patterns	Hand and Body Skills	Feeding Skills or Abilities
Birth through 5 months 	<ul style="list-style-type: none"> • Suck/swallow reflex • Tongue thrust reflex • Rooting reflex • Gag reflex 	<ul style="list-style-type: none"> • Poor control of head, neck, trunk • Brings hands to mouth around 3 months 	<ul style="list-style-type: none"> • Swallows liquids but pushes most solid objects from the mouth
4 months through 6 months 	<ul style="list-style-type: none"> • Draws in upper or lower lip as spoon is removed from mouth • Up-and-down munching movement • Can transfer food from front to back of tongue to swallow • Tongue thrust and rooting reflexes begin to disappear • Gag reflex diminishes • Opens mouth when sees spoon approaching 	<ul style="list-style-type: none"> • Sits with support • Good head control • Uses whole hand to grasp objects (palmer grasp) 	<ul style="list-style-type: none"> • Takes in a spoonful of pureed or strained food and swallows it without choking • Drinks small amounts from cup when held by another person, with spilling
5 months through 9 months 	<ul style="list-style-type: none"> • Begins to control the position of food in the mouth • Up-and-down munching movement • Positions food between jaws for chewing 	<ul style="list-style-type: none"> • Begins to sit alone unsupported • Follows food with eyes • Begins to use thumb and index finger to pick up objects (pincer grasp) 	<ul style="list-style-type: none"> • Begins to eat mashed foods • Eats from a spoon easily • Drinks from a cup with some spilling • Begins to feed self with hands
8 months through 11 months 	<ul style="list-style-type: none"> • Moves food from side-to-side in mouth • Begins to curve lips around rim of cup • Begins to chew in rotary pattern (diagonal movement of the jaw as food is moved to the side or center of the mouth) 	<ul style="list-style-type: none"> • Sits alone easily • Transfers objects from hand to mouth 	<ul style="list-style-type: none"> • Begins to eat ground or finely chopped food and small pieces of soft food • Begins to experiment with spoon but prefers to feed self with hands • Drinks from a cup with less spilling
10 months through 12 months 	<ul style="list-style-type: none"> • Rotary chewing (diagonal movement of the jaw as food is moved to the side or center of the mouth) 	<ul style="list-style-type: none"> • Begins to put spoon in mouth • Begins to hold cup • Good eye-hand-mouth coordination 	<ul style="list-style-type: none"> • Eats chopped food and small pieces of soft, cooked table food • Begins self-spoon feeding with help

*Developmental stages may vary with individual babies. See the Bibliography, page 93, for references used to develop this chart.

Figure 2

Feeding the Baby For the First Year

Babies grow quickly during the first year of life and make many changes in the types of foods and textures of foods they are able to

eat. As babies grow and develop, watch for the following signs which will tell you when they are ready for a new food.

BABIES AGE:	WHEN BABIES CAN:	SERVE:
<p>Birth through 3 Months</p> 	<ul style="list-style-type: none"> • Only suck and swallow 	<p>LIQUIDS ONLY</p> <ul style="list-style-type: none"> • Breastmilk • Infant formula with iron
<p>4 months through 7 months</p> 	<ul style="list-style-type: none"> • Draw in upper or lower lip as spoon is removed from mouth • Move tongue up and down • Sit up with support • Swallow semisolid foods without choking • Open the mouth when they see food • Drink from a cup with help, with spilling 	<p>ADD SEMISOLID FOODS</p> <ul style="list-style-type: none"> • Infant cereal with iron • Strained vegetables* • Strained fruit* <p><i>*may be started later in the age range</i></p>
<p>8 months through 11 months</p> 	<ul style="list-style-type: none"> • Move tongue from side to side • Begin spoon feeding themselves with help • Begin to chew and have some teeth • Begin to hold food and use their fingers to feed themselves • Drink from a cup with help, with less spilling 	<p>ADD MODIFIED TABLE FOODS</p> <ul style="list-style-type: none"> • Mashed or diced soft fruit • Mashed or soft cooked vegetables • Mashed egg yolk • Strained meat/poultry • Mashed cooked beans or peas • Cottage cheese, yogurt, or cheese strips • Pieces of soft bread • Crackers • Breastmilk, iron-fortified formula, or fruit juice in a cup